

Figure 1A (Prior Art)

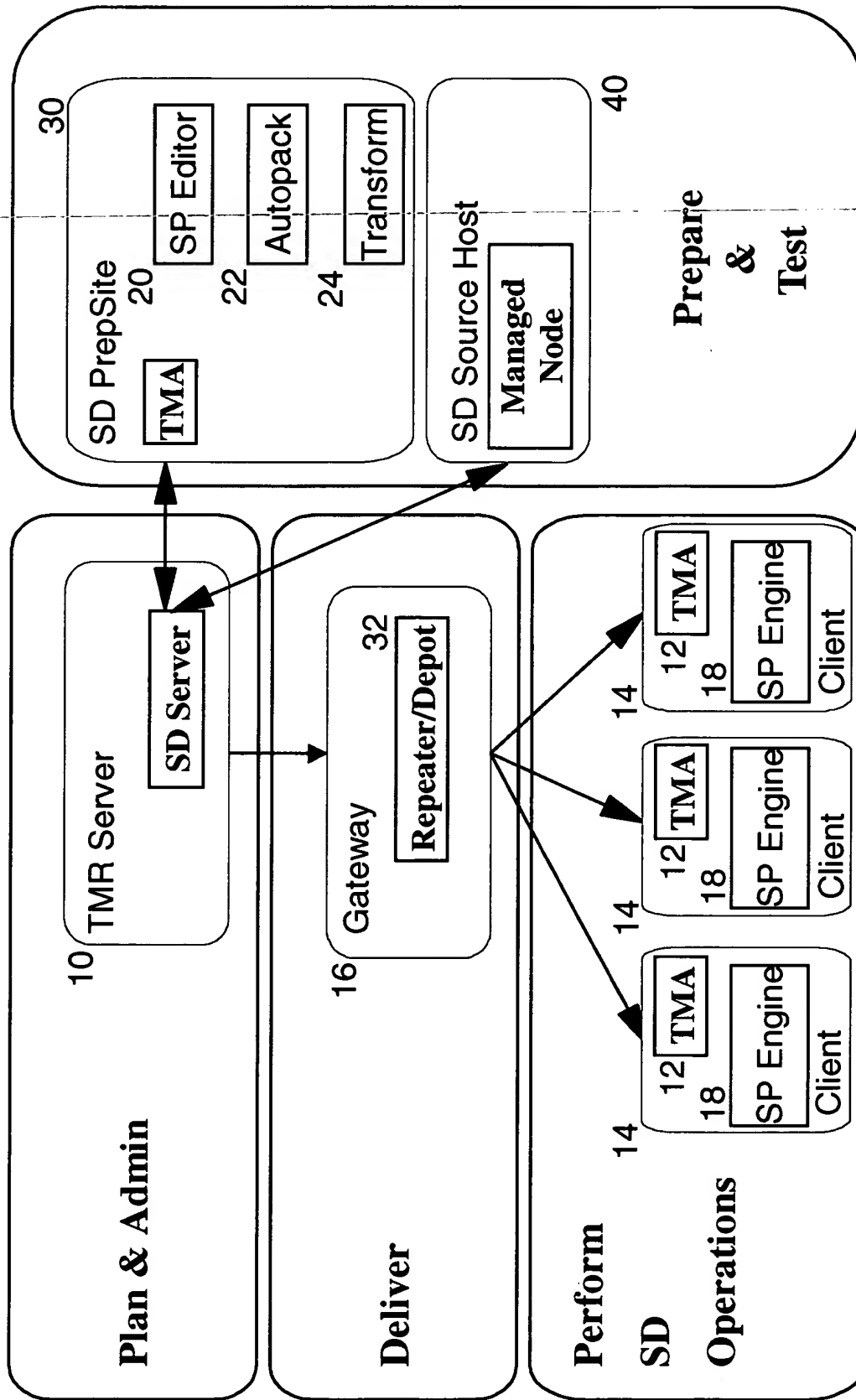


Figure 1B

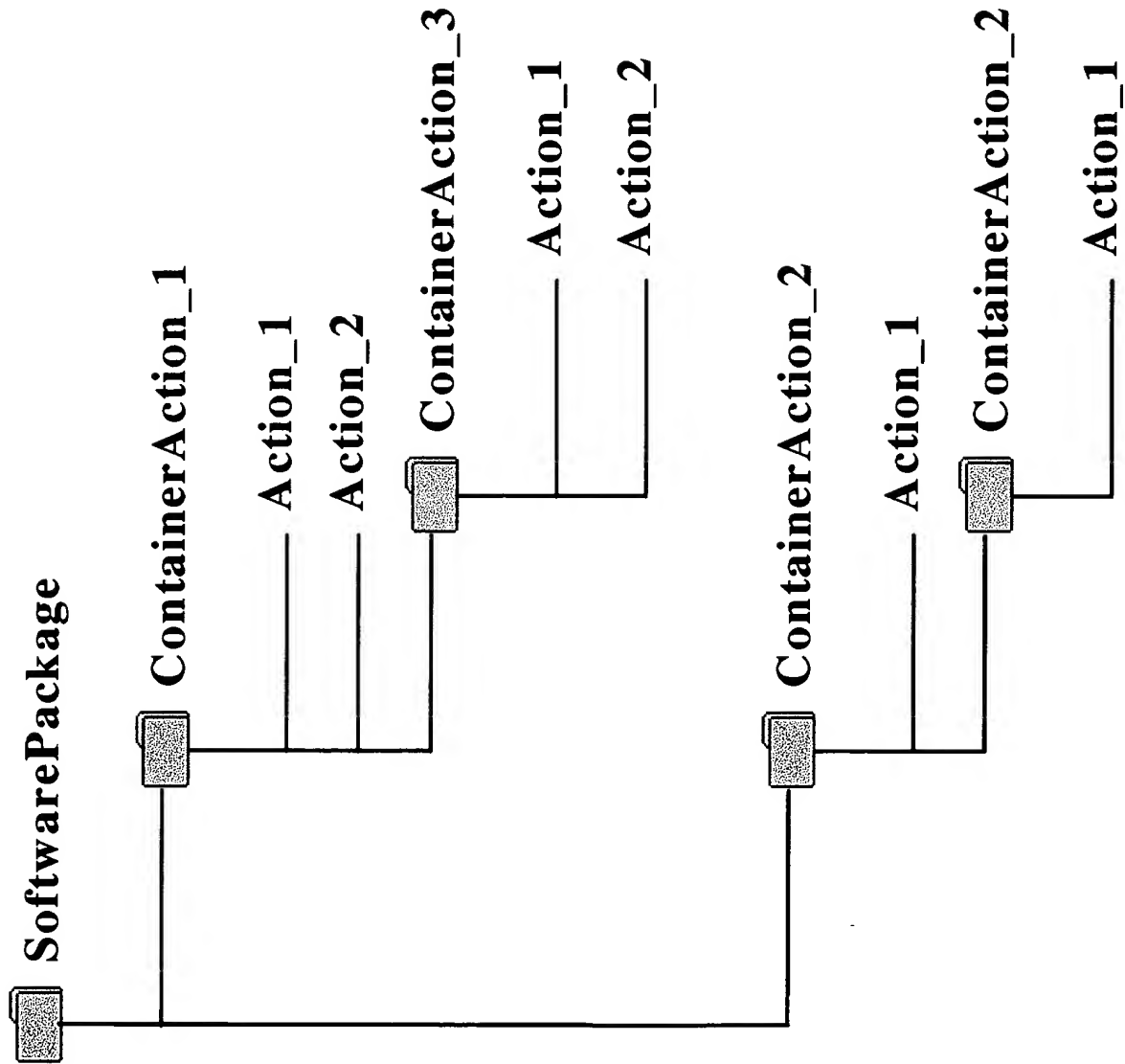


Figure 2

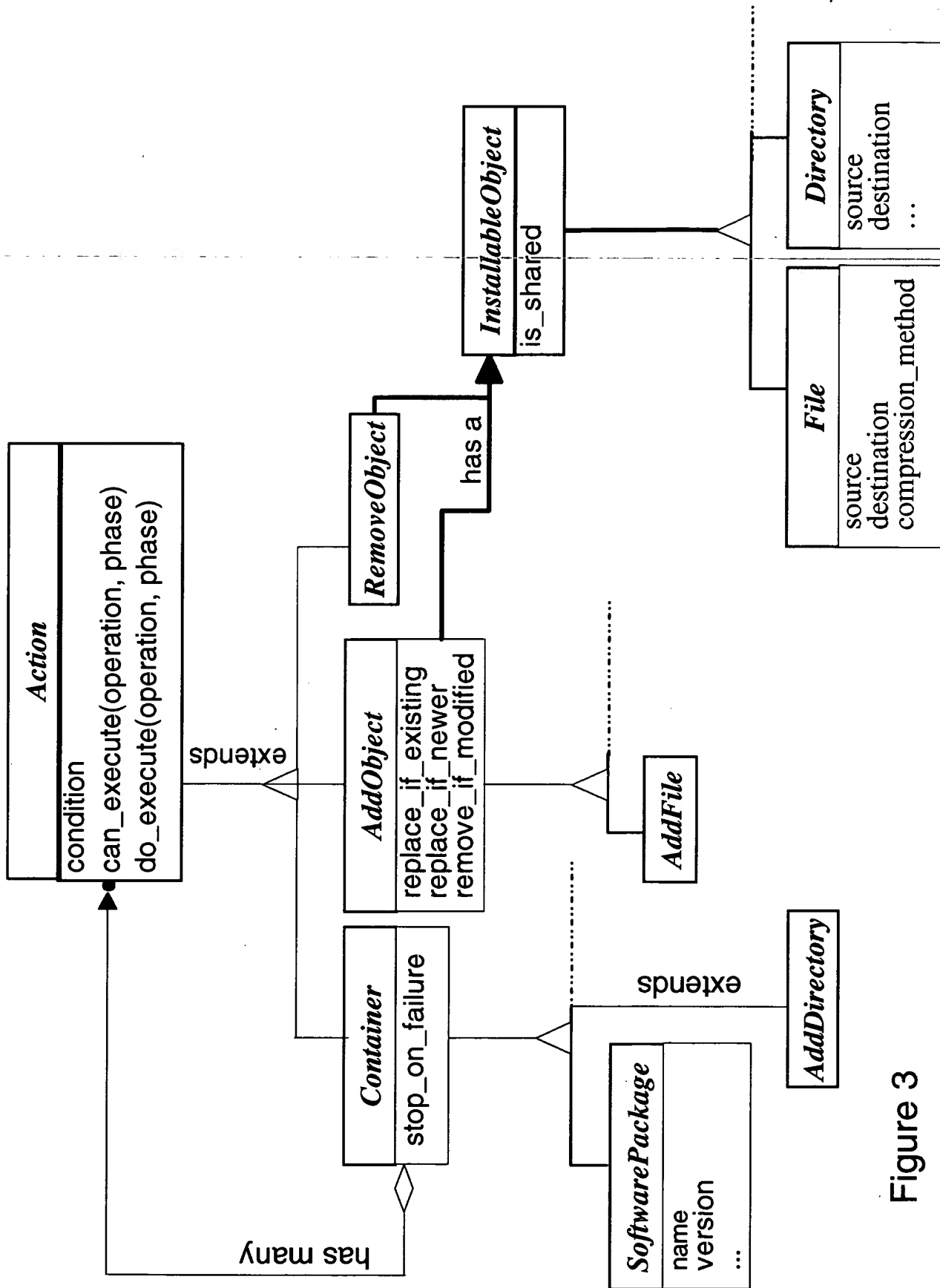


Figure 3

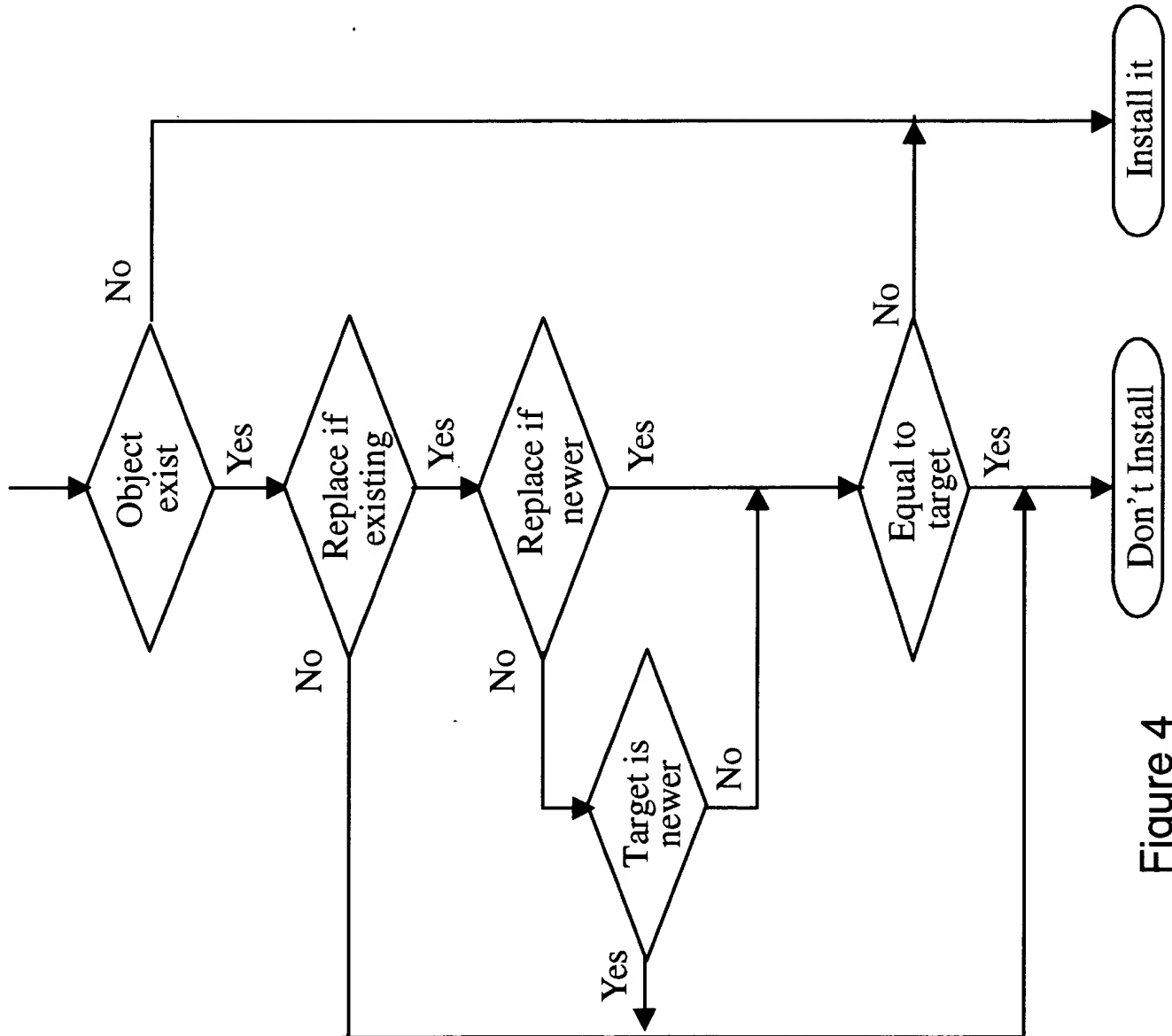


Figure 4

FIG. 4

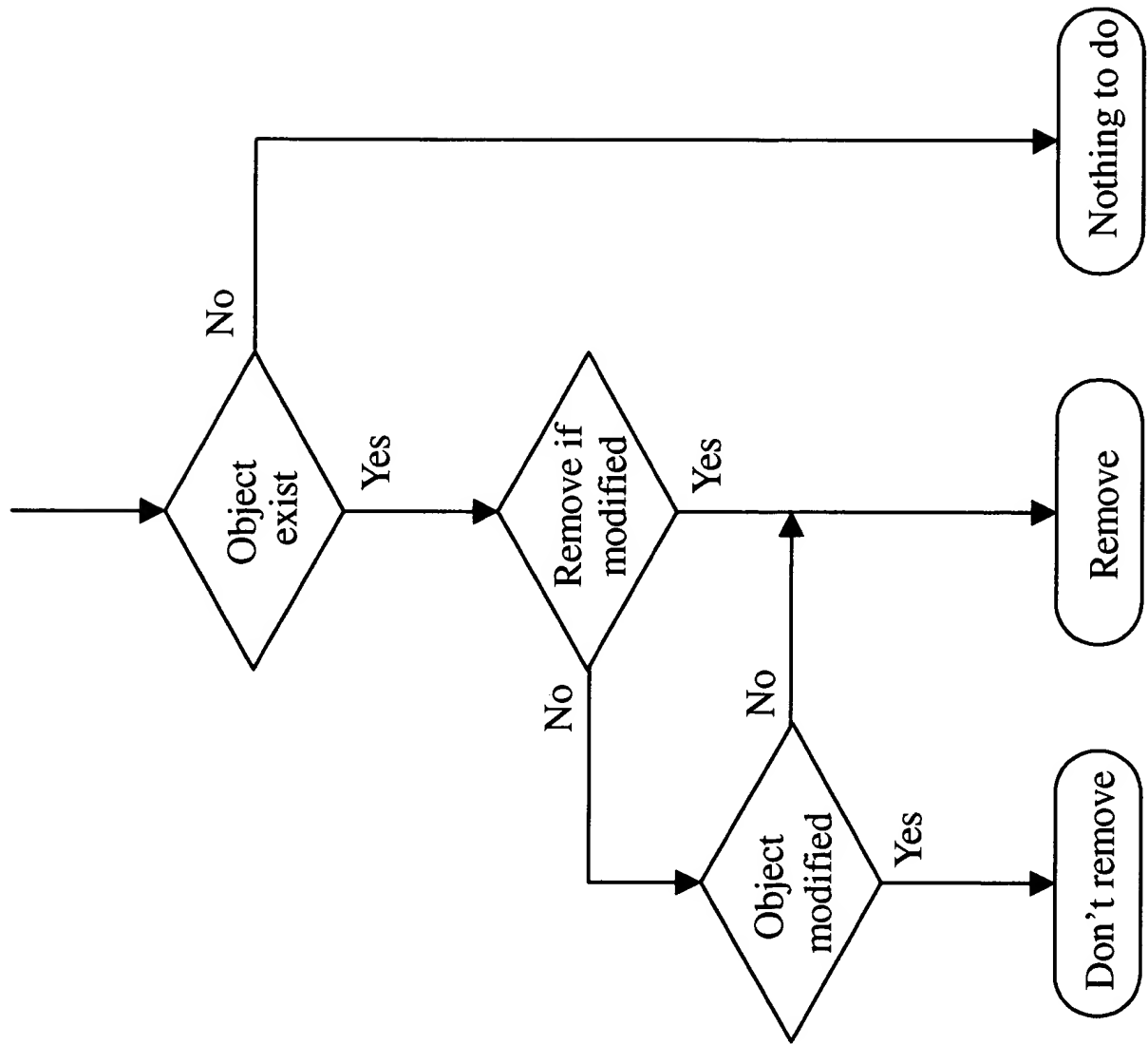


Figure 5

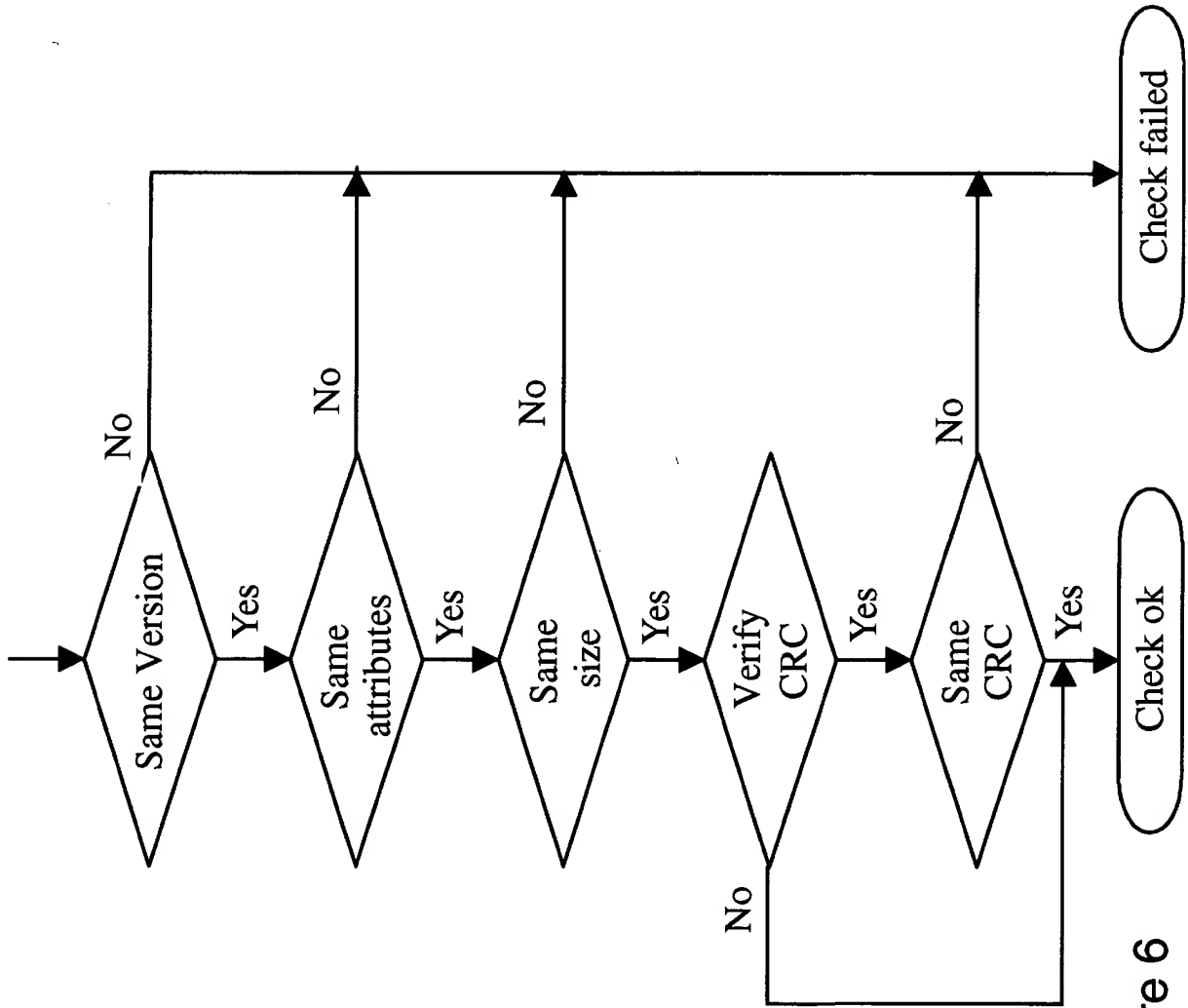


Figure 6

Object related actions	Registry Key and Value Shell Folder and Shortcut INI file Section and Item NT Service Profile Item Desktop Object, Folder, Program, Shadow Directory and File Text file line, command, token Symbolic link
System actions and Checks	Restart Check disk space
Program actions	Execute user program Execute MS Setup program Execute InstallShield program Execute CID Program

Figure 7

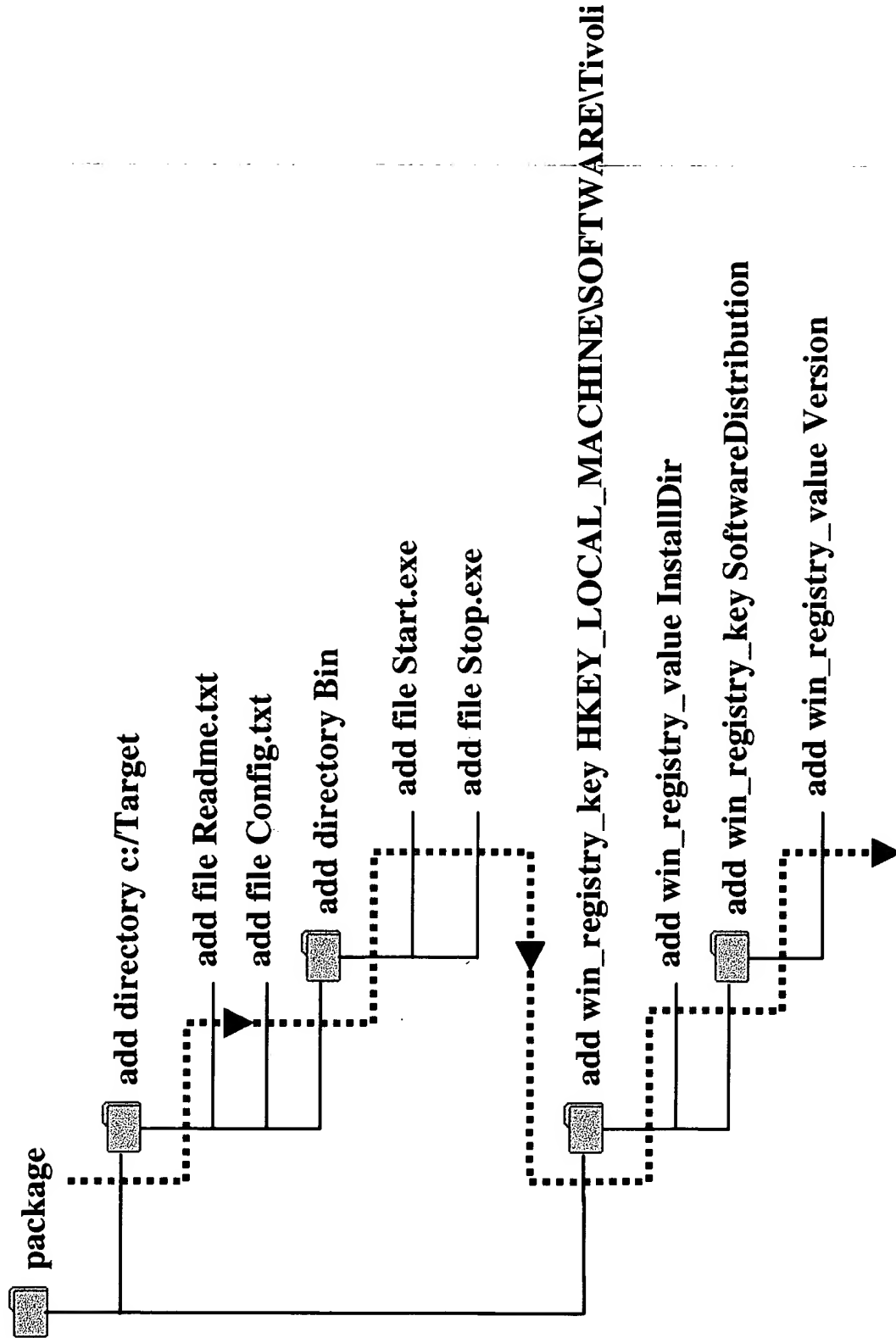


Figure 8

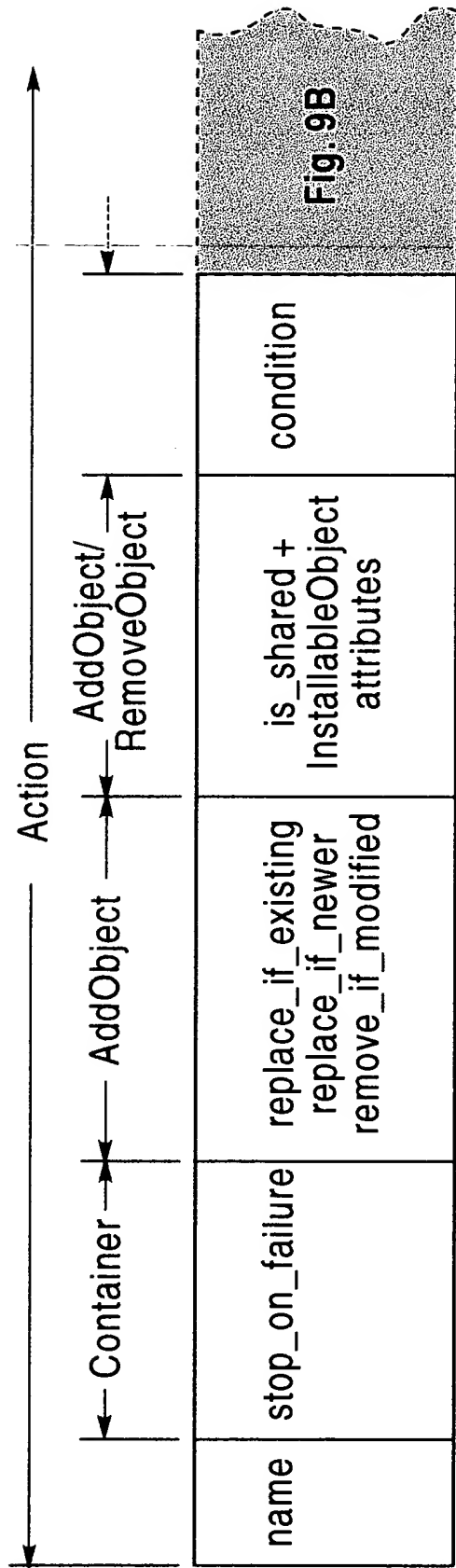


Figure 9A

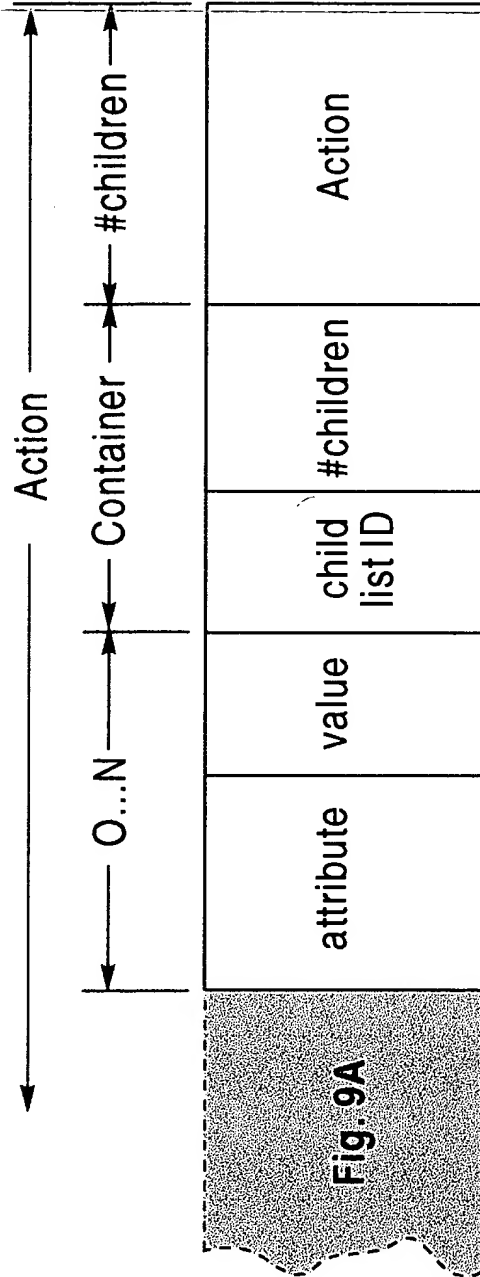


Figure 9B

"TME 10 Software Package v4.0 - SPDF" ← Signature of SPD

package

name = "Software Package"
version = "1.0"

check_disk_space

volume = C:, 25M
volume = D:, 35M

end

generic_container

condition = "\${os_name} == Windows_NT"

Container stanza

add win_registry_key

parent_key = HKEY_LOCAL_MACHINE\SOFTWARE
key = "Registry Key"

win_registry_key

key = "Nested Registry Key" ← Attribute value pair

end

end

end

end

Figure 10

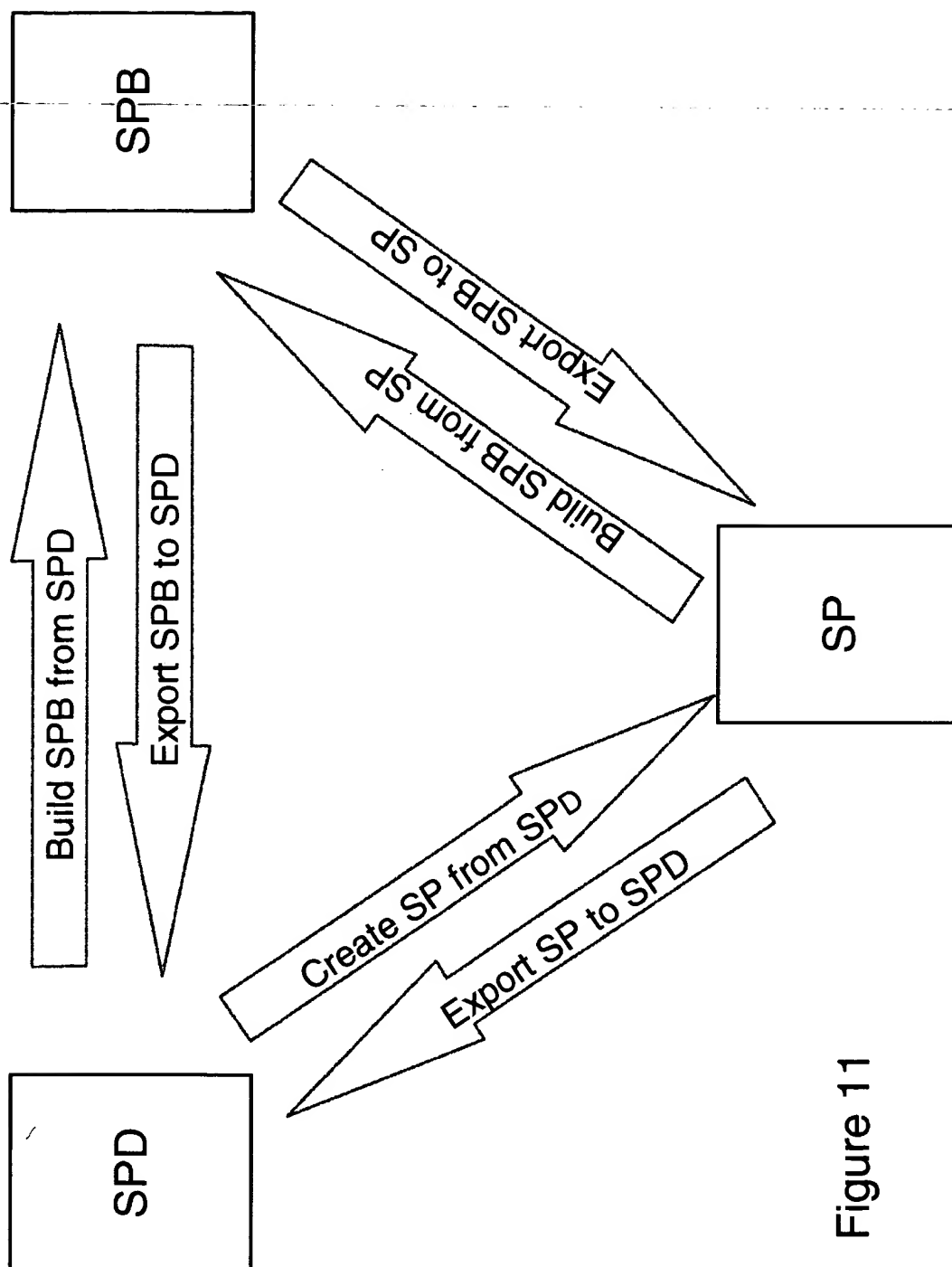


Figure 11

```

...
add directory
location      = c:/Winnt/System32/
destination   = c:/Winnt/System32/

file
name          = MyApp.DLL
end
end

add directory
location      = c:/MyApp
destination   = c:/MyApp
descend_dirs = y
end
...

...
add directory
location      = c:/Winnt/System32/
destination   = $(system_dir)

file
name          = MyApp.DLL
end
end

add directory
location      = c:/MyApp
destination   = $(target_dir)
descend_dirs = y
end
...

```

Figure 12A

Figure 12B

```
...  
add directory  
    condition = "$os_name) LIKE 'Win*'"  
    location  = c:/winnt/system32  
    destination = $(system_dir)  
    file  
        name = MyApp.DLL  
    end  
end  
add directory  
    condition = "$os_name) == SunOS OR $(os_name) == AIX"  
    location  = c:/unix/  
    destination = $(home_path)  
    file  
        name      = MyApp.a  
    end  
end  
...
```

Figure 12C

```
...
add directory
    location      = c:/MyApp
    destination  = $(target_dir)
    file
        name = MyApp.CFG
        substitute_variables = y
    end
end
...
```

Figure 13A

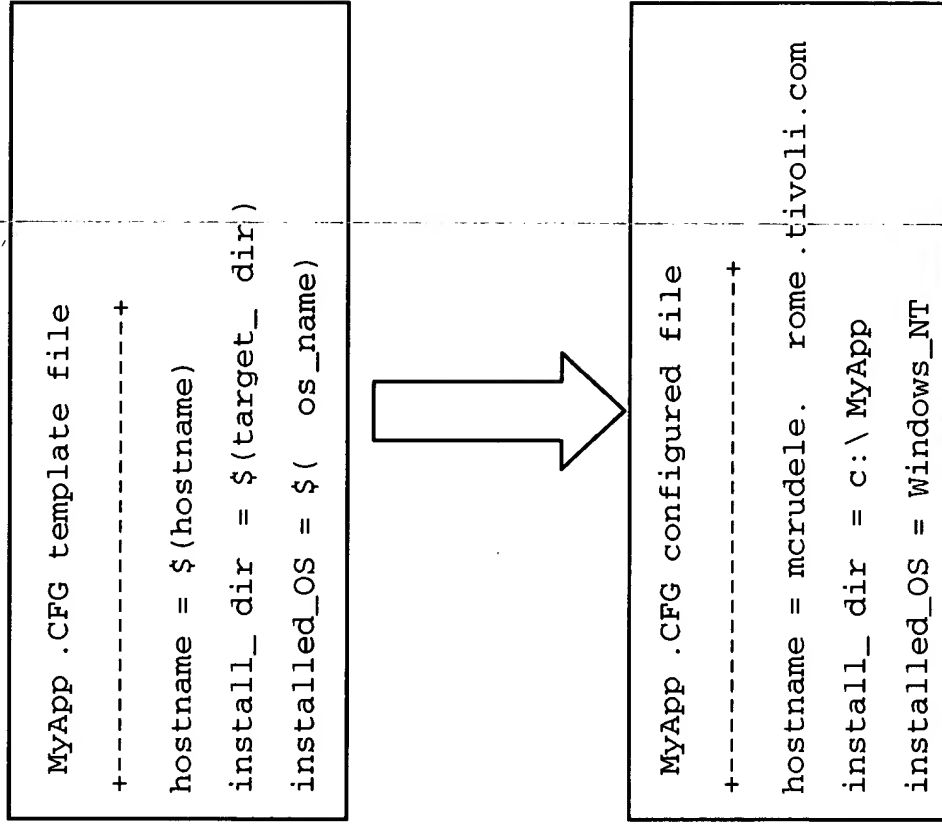


Figure 13B

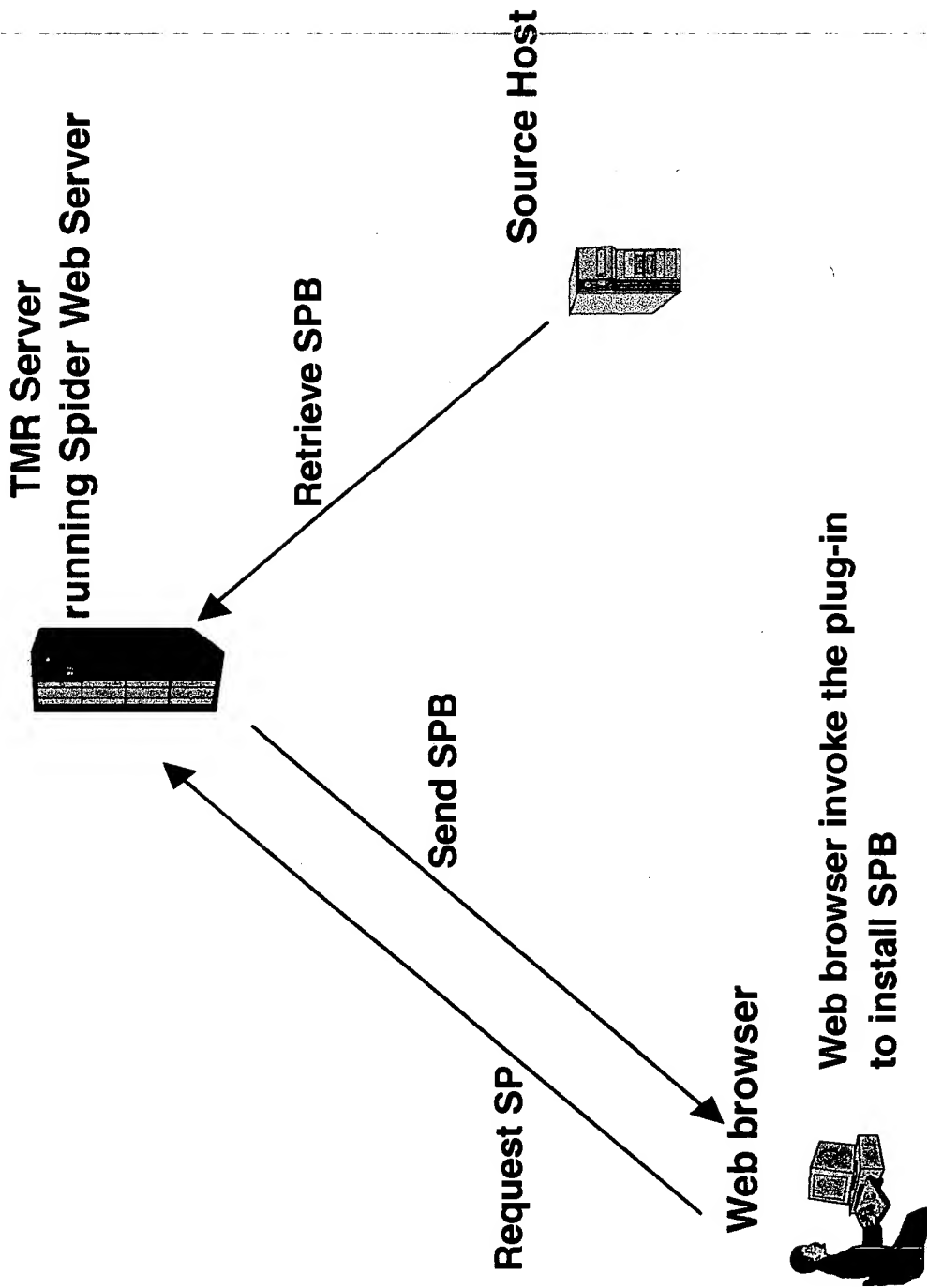


Figure 14

wdcrtsp	Create a SPB file from a SPD file	
wdexptsp	Export a SPB file into SPD file	
wbldspb	Build a SPB file from a SP	
autopack	Run AutoPack snapshots/differences	
wdinstsp	Install a SPB	
wdrmvsp	Remove a SP	
wdcmmtsp	Commit a SP	
wdundosp	Undo a SP Install/Remove	
wdacptsp	Accept an undoable Install/Remove	
wdversp	Verify the state of a SP	

Figure 15

wimpspo	Associate a Software Package to a SPO
wconvspo	Convert the format of a SPO
wexpspo	Export a SPO into SPD file
wldsp	Loads SP on one or more Depots
wuldsp	UnLoad a SP from one or more Depots
winstsp	Install a SP
wremovsp	Remove a SP
wcommtsp	Commit a SP
wundosp	Undo a SP Install/Remove
waccptsp	Accept an undoable Install/Remove
wversp	Verify the state of a SP

Figure 16

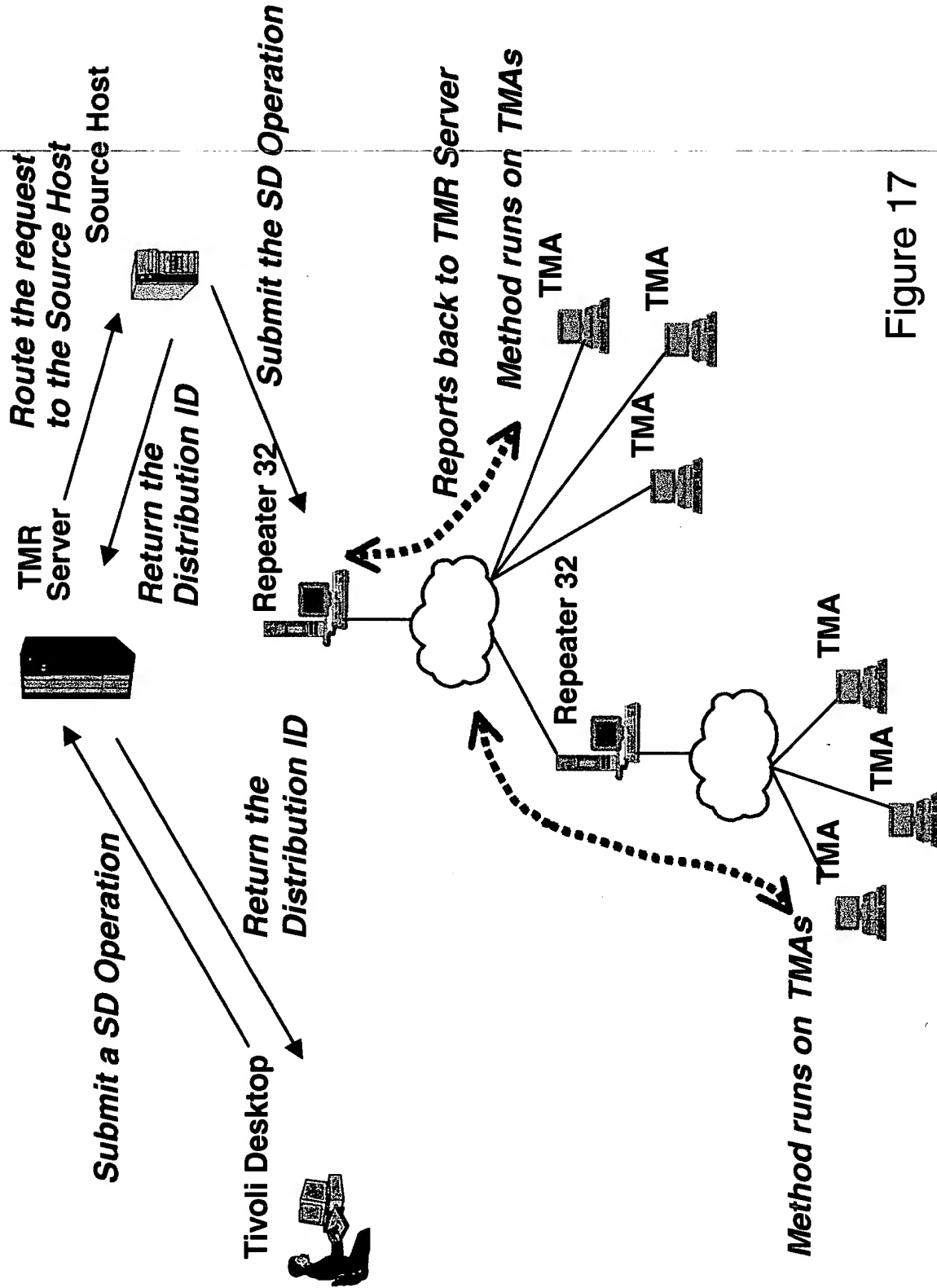


Figure 17

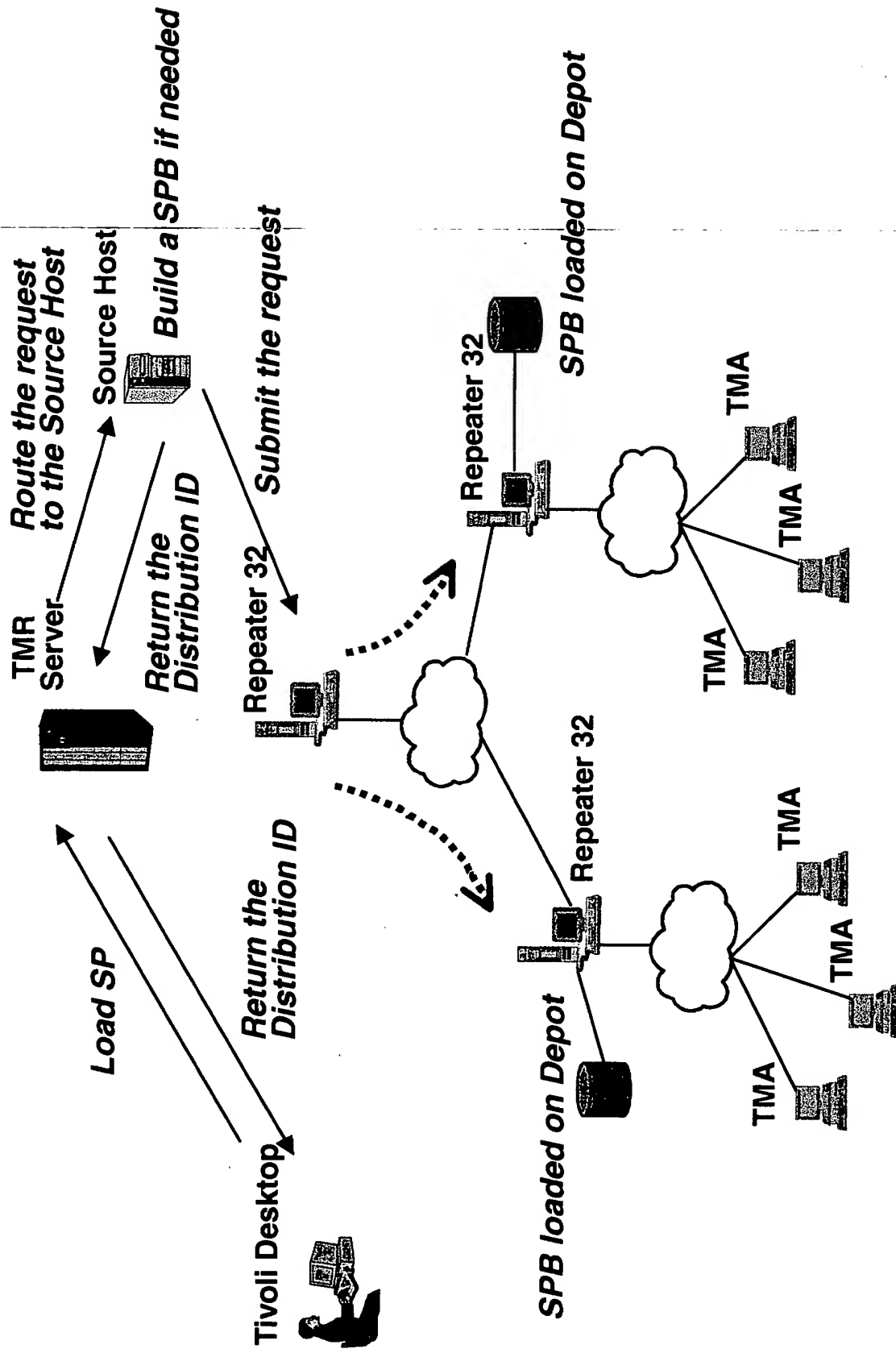


Figure 18

	Install	Remove	Accept	Undo	rollBack	Commit	Verify
transactional	X	X		X			
undoable	X	X					
undoable in transactional	X	X					
transactional & undoable	X	X					

Figure 19

Operation	State	Undo state	Reboot state	Flag
Install	Prepared	Prepared	ReBoot requested	Changing
Remove	Committed	Undoable	-	In Error
		Restored		-
		-		

IC--- means that an Install has been committed

ICU-- means that an Install has been committed and can be undone

IP-BC means that an Install has been prepared and it will be committed during the next reboot

RCU-- means that a Remove has been committed but it can be undone

IC--E means that an Install has been committed but the SP is in error, so the application may not work properly

Figure 20

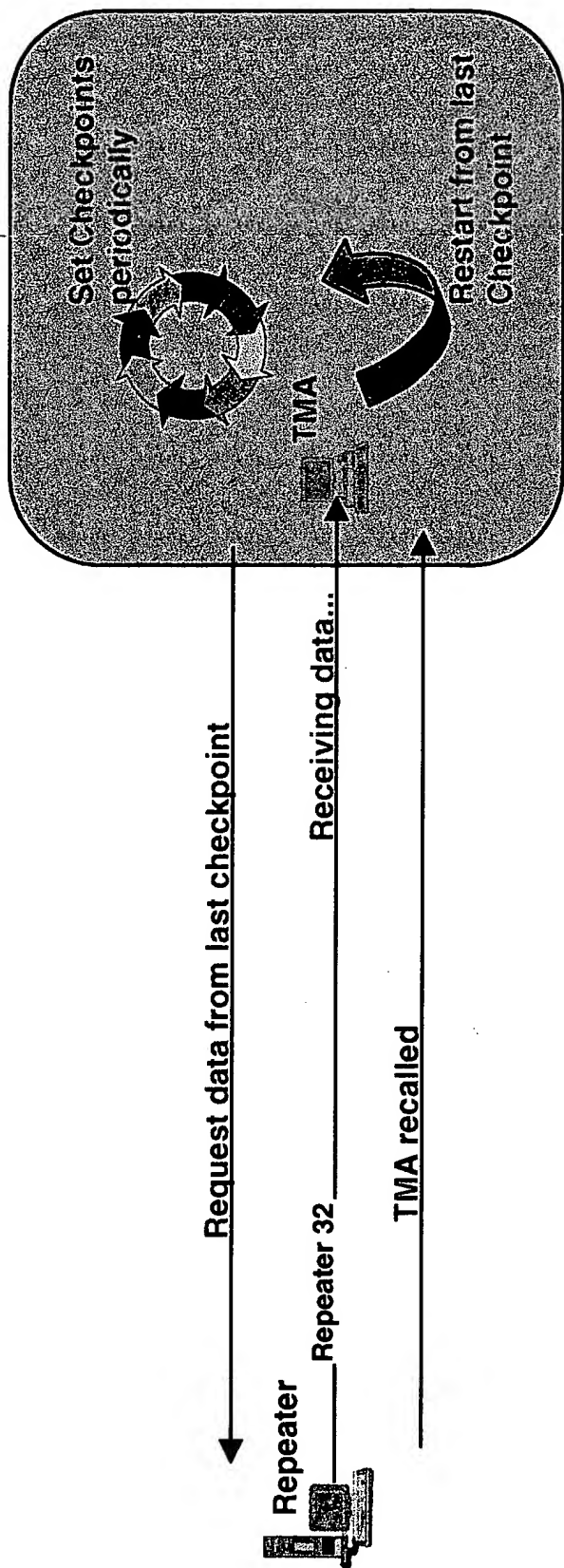


Figure 21

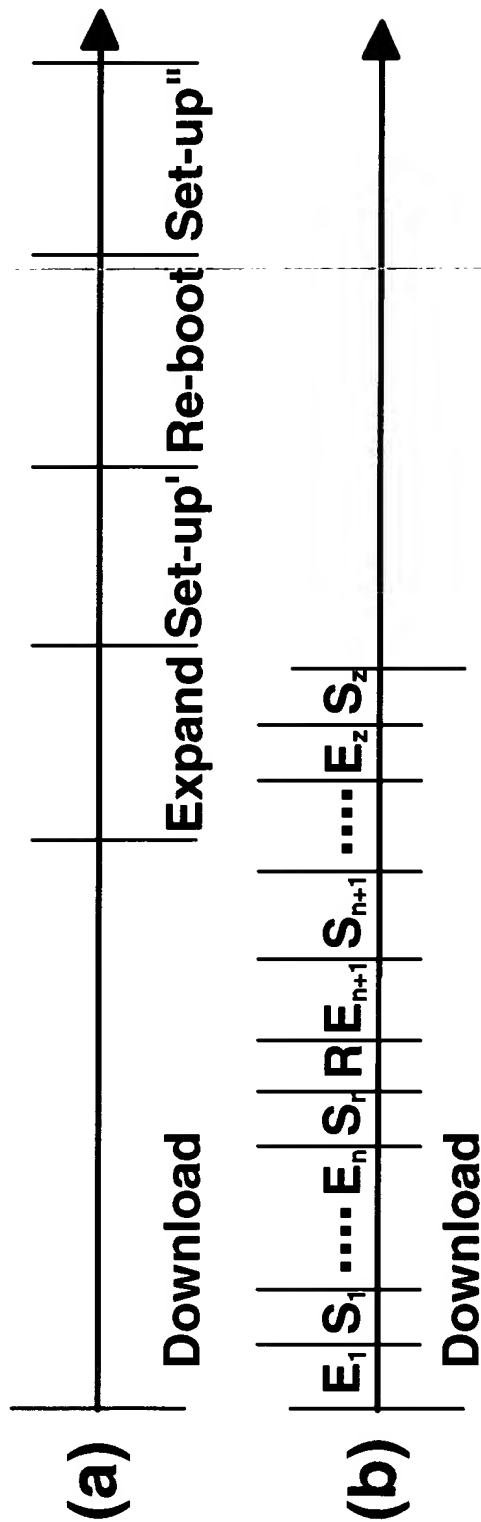


Figure 22

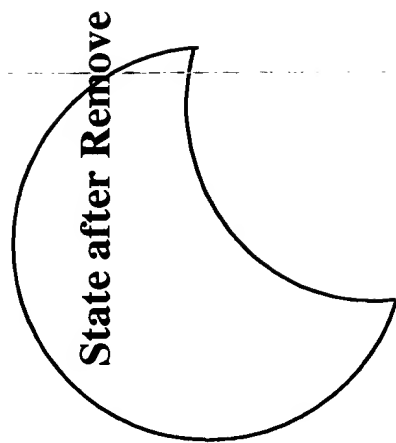
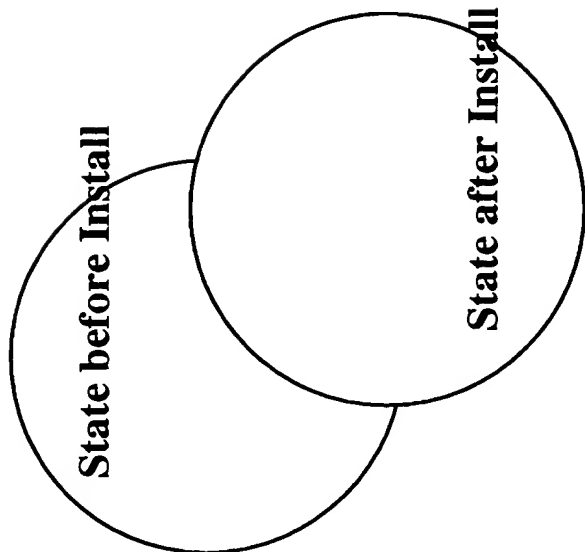


Figure 23

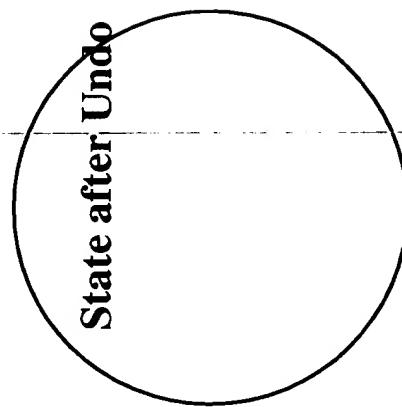
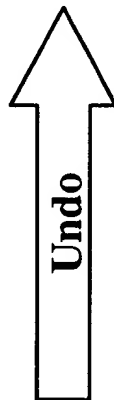
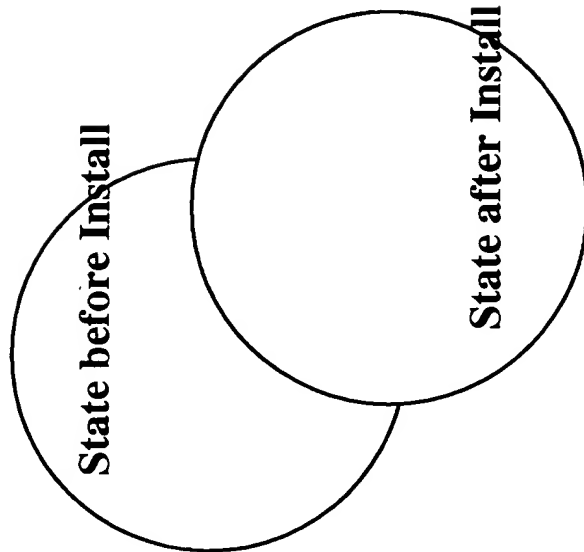


Figure 24

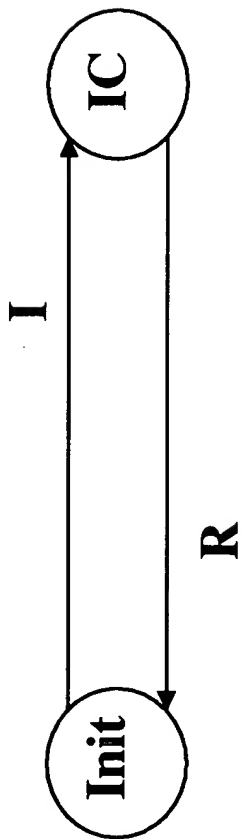


Figure 25A

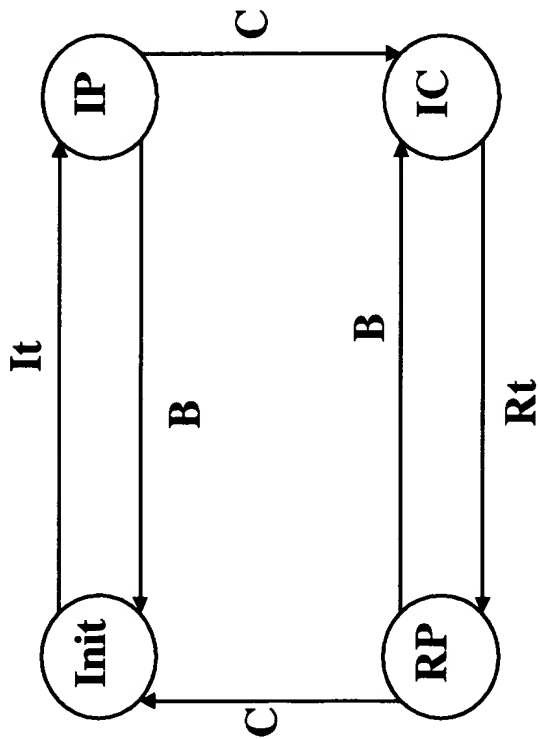


Figure 25B

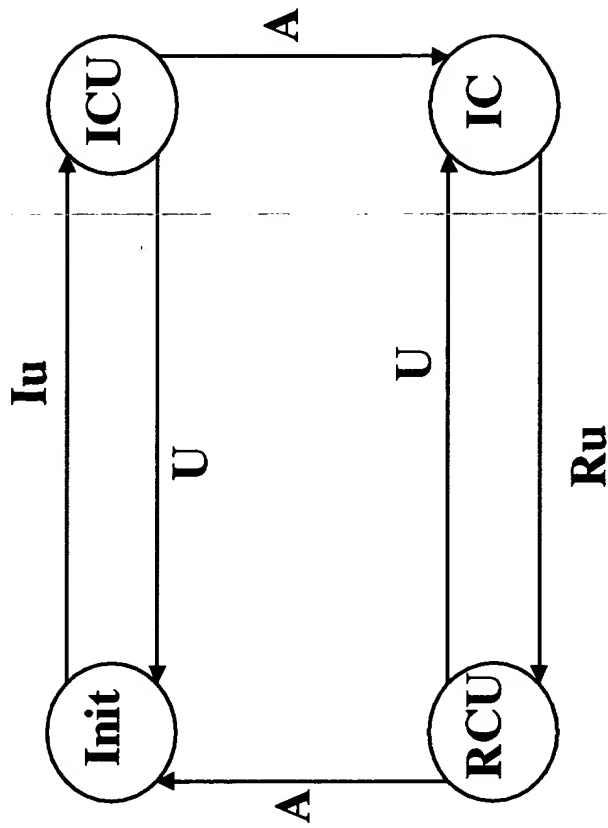


Figure 25C

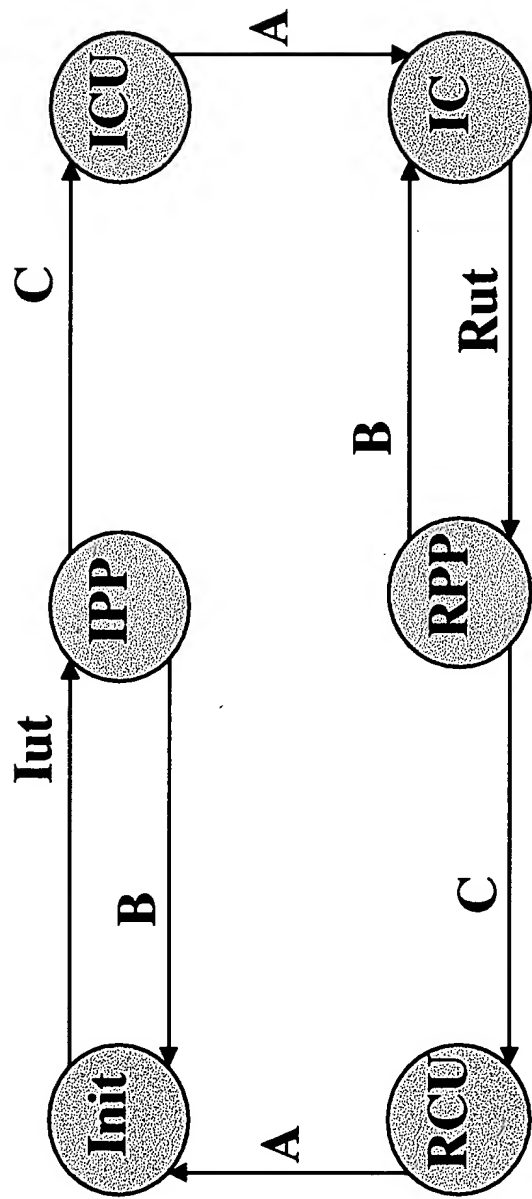


Figure 25D

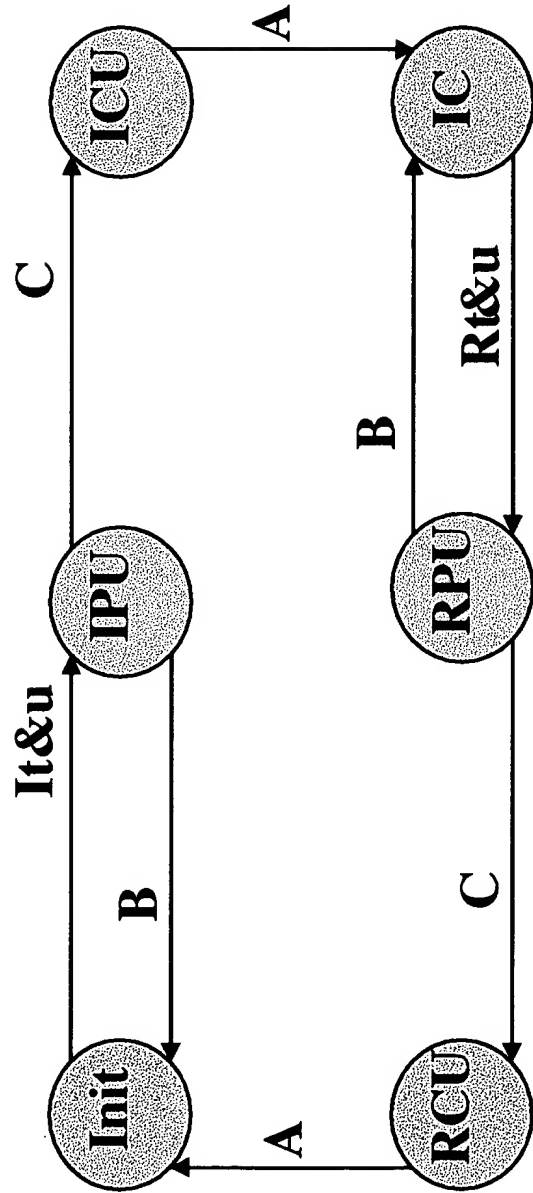


Figure 25E

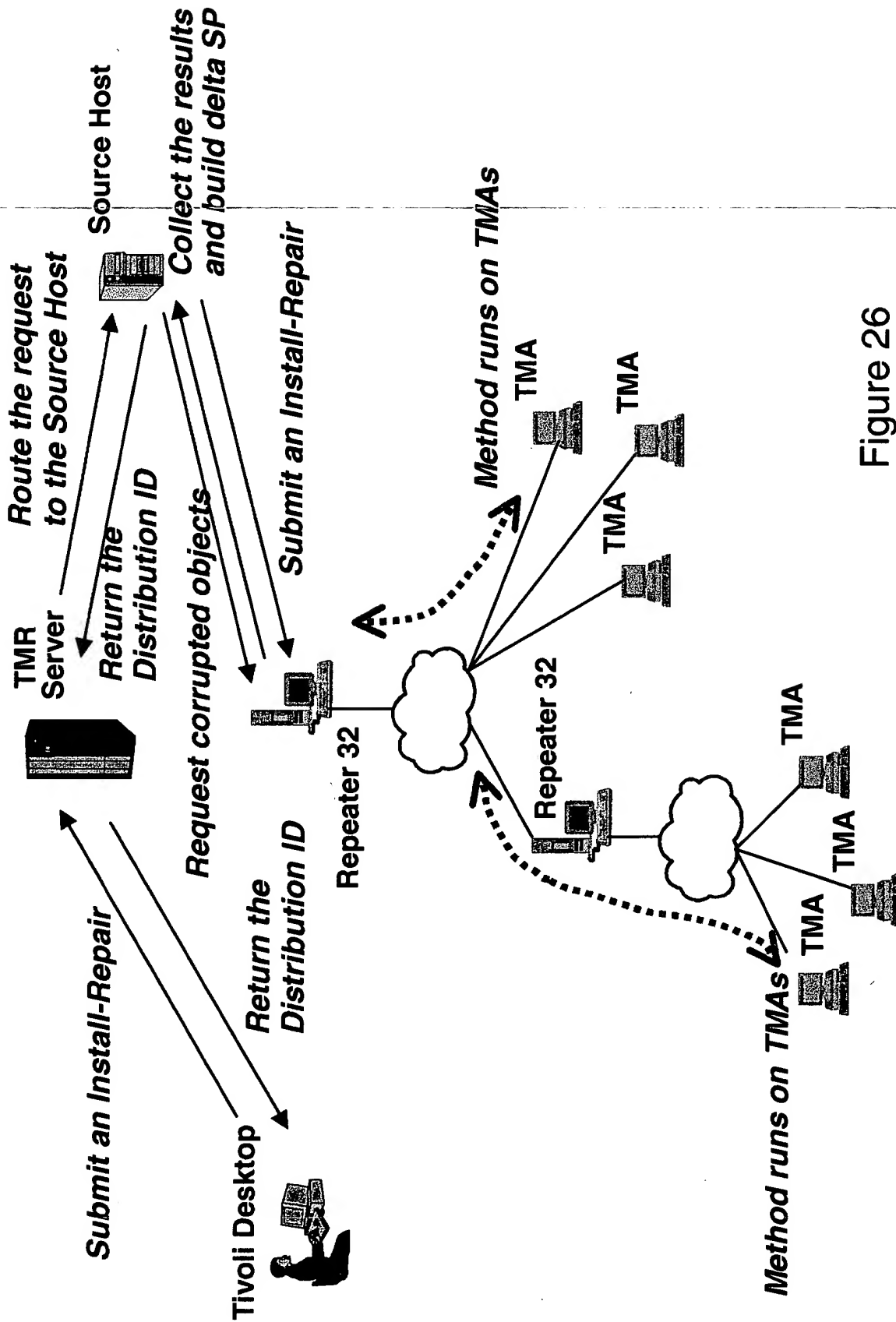


Figure 26

```
...
## Mount the image directory
execute_user_program
during_install
    name      = $(system_dir)/NET.EXE
    arguments = "USE $(freedrive_01) $(remote_name)"
end
end
## Run the setup to perform the installation
execute_mssetup_program
during_install
    name      = $(freedrive_01)/setup.exe
    arguments = "/Q1 /B1"
end
end
## U-mount the image directory
execute_user_program
during_install
    name      = $(system_dir)/NET.EXE
    arguments = "$(freedrive_01) /d"
end
end
...
```

Figure 27